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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/606,440
Filing Date: June 26, 2003
Appellant(s): LOCKEMEYER ET AL.

Richard F. Lemuth
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 19, 2006, and the Supplemental/Reply Brief filed on January 30, 2007, appealing from the Office action mailed February 3, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,007,135	HAYDEN et al.	02-1977

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. Claims 1-9 and 11-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hayden et al. (U. S. Patent No. 4,007,135).

Hayden et al. teach catalysts for the production of alkylene oxides comprising silver supported on a support having a specific surface area ranging from 0.04-10 m^2/g, median pore diameters of 0.3 to 15 microns, and also comprising a promoting amount of metals such as niobium, tantalum, molybdenum, tungsten, vanadium, chromium, calcium, magnesium, strontium, or barium (considered to read upon the limitation

"selectivity enhancing dopants"). See col. 1 lines 20-41 of Hayden et al., as well as col. 2, lines 16-30.

The support may be alumina, and is preferably alpha-alumina. Further, the catalyst preferably comprises 3 to 15% by weight of silver. See col. 3, lines 21-50 of Hayden et al.

Because Hayden et al. disclose an alpha-alumina support having a surface area comparable to that respectively claimed, the weight percentage range of the silver recited in this reference is considered to read upon Applicants' claim limitations regarding the quantity of silver (e.g., "0.17 g/m^2 surface area of the support").

At col. 5, line 28 to col. 6, line 4, Hayden et al. discuss the conversion of ethylene to ethylene oxide, and of propylene to propylene oxide, in the presence of the aforementioned catalysts. These conversions involve contact of the catalyst with feeds comprising either ethylene or propylene, oxygen (in the form of air or commercial oxygen), carbon dioxide, and, optionally, a reaction modifier. Temperatures at which contact takes place ranges from 190°C-270°C for ethylene, and from 200°C to 300° for times sufficient to convert up to 50% of, for example, propylene.

Example 7 of Hayden et al. depicts the preparation of a catalyst comprising alpha-alumina, silver, and barium, wherein the support is impregnated with barium hydroxide, followed by heating in an air atmosphere at 300°C for 60 minutes, followed by forming a second solution of silver and barium acetates. The final catalyst is passed over with a gas mixture comprising 30% ethylene, 8% oxygen, 62% nitrogen, and 4 ppm ethylene dichloride, during which selectivity and conversion were determined at 240°C.

Hayden et al. do not specifically disclose a method for improving the selectivity of a...catalyst", as recited in the instant claims. However, because Hayden et al. disclose the same or similar method steps, conditions, and catalyst components as respectively claimed, it would have been obvious to one skilled in the art at the time the invention was made to reasonably expect that the method of Hayden et al. would result in improved catalyst selectivity, in view of the strong similarities between Hayden et al. and the claimed invention.

(10) Response to Argument

Response to Arguments

In response to Appellants' arguments that Hayden et al. provide "generically no preference to use higher decomposition temperatures over lower decomposition temperatures", or vice versa, such a lack of preference is not seen to preclude Hayden et al. from reading upon Appellants' claims in their present form. Appellants' claims do not recite any decomposition steps or conditions in the instant claims.

Further, Appellants' detailed inter-example comparisons (e.g., "a comparison of Example 7 to Example 27") does not show how the prior art method is inferior to that instantly claimed. Appellants' claims are directed to improving the selectivity of a supported catalyst by contacting said catalyst or a precursor thereof, with a feed comprising oxygen at a catalyst temperature above 250°C for at least 0.5 hours and up to 150 hours, followed by decreasing the catalyst temperature to at most 250°C.

Hayden et al., as discussed above, reads upon Appellants' claims. Although this reference does not recite the phrase "for improving the selectivity of a supported highly

selective oxidation catalyst", this reference does teach the claimed steps of contacting a catalyst comprising silver, supported on a support, and promoting amounts of metals (considered to read upon the phrase "selectivity enhancing dopants") with feeds comprising either ethylene or propylene, oxygen (in the form of air or commercial oxygen; considered to read upon Appellants' "feed comprising oxygen"), carbon dioxide, and, optionally, a reaction modifier, said contacting performed at temperatures ranging from 190°C-270°C for ethylene, and from 200°C to 300°C for times sufficient to convert up to 50% of, for example, propylene (considered to read upon Appellants' "catalyst temperatures" and also "for a duration...", respectively).

In response to Appellants' arguments that Hayden et al. do not "teach or suggest any relationship between the amount of silver and the surface area of the support, i.e., silver density", it is the Examiner's position that, in the Advisory Action of August 16 2006, calculations were made employing the support surface area range and the weight percentage range of silver, respectively disclosed in Hayden et al., to determine that the silver density therein can range from 0.003 to 0.77 g/m^2, which overlaps Appellants' claimed "quantity of at most 0.17 g/m^2".

In response to Appellants' argument regarding the prior art's "reasonable expectation of success", it is the Examiner's position that, because the prior art reads upon Appellants' claims regarding the claimed catalyst components and method parameters, as presently claimed, any disclosed or claimed benefits resultant from the claimed invention would be expected to also be exhibited by the prior art, *absent the showing of convincing evidence to the contrary.*

While Hayden et al. may not specifically disclose the improvement of the catalyst's selectivity, the reference does teach process parameters and conditions comparable to what Appellants claim as their inventive method.

For these reasons, Appellants' arguments are not persuasive.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Examiner, Art Unit 1755
April 16, 2007

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